

CONFERENCE OF THE EIGHTEEN-NATION COMMITTEE
ON DISARMAMENT

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COLLECTION

FINAL VERBATIM RECORD OF THE FOUR HUNDRED AND FOURTH MEETING

held at the Palais des Nations, Geneva,
on Thursday, 17 April 1969, at 10.30 a.m.

Chairman:

Mr. N. ECOBESCO

(Romania)

GE.69-8617

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PRESENT AT THE TABLE

Brazil:

Mr. S.A. FRAZAO
Mr. C.A. de SOUZA e SILVA
Mr. L.F. PAIMEIRA LAMPREIA
Mr. J. NOGUEIRA FILHO

Bulgaria:

Mr. K. CHRISTOV
Mr. M. KARASSIMEONOV
Mr. B. KONSTANTINOV
Mr. I. PEINIRDJIEV

Burma:

U KYAW MIN

Canada:

Mr. G. IGNATIEFF
Mr. A.G. CAMPBELL
Mr. J.R. MORDEN

Czechoslovakia:

Mr. T. LAHODA
Mr. V. VAJNAR
Mr. V. SAFAR
Mr. J. STRUCKA

Ethiopia:

Mr. A. ZELLEKE

India:

Mr. M.A. HUSAIN
Mr. N. KRISHNAN
Mr. K.P. JAIN
Mr. O.N. SHEOPURI

Italy:

Mr. R. CARACCILO
Mr. F. LUCIOLI OTTIERI
Mr. R. BORSARELLI
Mr. U. PESTALOZZA

Mexico:

Miss E. AGUIRRE
Mr. H. CARDENAS RODRIGUEZ

Nigeria:

Alhaji SULE KOLO
Mr. C.O. HOLLISS
Mr. L.A. MALIKI

Poland:

Mr. J. WINIEWICZ

Mr. H. JAROSZEK

Mr. K. ZYBYLSKI

Mr. H. STEPOSZ

Romania:

Mr. N. ECOBESCO

Mr. V. CONSTANTINESCO

Mr. V. TARZIORU

Sweden:

Mrs. A. MYRDAL

Mr. A. EDELSTAM

Mr. O. DAHLEN

Mr. T. WULFF

Union of Soviet Socialist
Republics:

Mr. A.A. ROSHCHIN

Mr. I.I. TCHEPROV

Mr. N.S. KISHILOV

Mr. V.A. USTINOV

United Arab Republic:

Mr. H. KHALLAF

Mr. E.S. EL REEDY

United Kingdom:

Mr. F. MULLEY

Mr. I.F. PORTER

Mr. W.N. HILLIER-FRY

Miss V. HUGHES

United States of America:

Mr. A.S. FISHER

Mr. C. GLEYSTEN

Mr. W. GIVAN

Mr. R.L. McCORMACK

Special Representative of the
Secretary-General:

Mr. D. PROTITCH

Deputy Special Representative of the
Secretary-General:

Mr. W. EPSTEIN

1. The CHAIRMAN (Romania) (translation from French): I declare open the 404th plenary meeting of the Conference of the Eighteen-Nation Committee on Disarmament.
2. Mr. MULLEY (United Kingdom): I regret that the late decision to postpone the opening of this session of the Committee prevented my earlier attendance here but I have followed with close interest the course of your deliberations, and Ambassador Porter has already indicated the preliminary views of the United Kingdom delegation on a number of the major issues on our agenda (ENDC/PV.396).
3. I should like to take this opportunity of welcoming the new representatives to the Committee and to say how pleased we are to have several old friends return among us. We also welcome today several distinguished visitors, including Mr. Winiewicz, Deputy Foreign Minister of Poland, and Mr. Kutakov, Under-Secretary-General in the Department of Political and Security Council Affairs of the United Nations. May I also express my appreciation to all who have kindly commented upon my renewed participation in our work this week.
4. Without provoking the charge of undue optimism I hope I may say that I have been encouraged, by the speeches so far delivered and the general atmosphere and willingness to seek solutions to the enormous problems that face us, to believe that there are real possibilities of substantial progress ahead of us. However we must recognize that the margin between optimism and pessimism, like the difference between happiness and misery, can be quite small. In particular we must not allow enthusiasm for general principles to entice us away from the hard and often frustrating task of translating them into workable and acceptable conventions and treaties.
5. We have the experience of the non-proliferation Treaty (ENDC/226*) to remind us of the nature of this problem, since even now we are some way from bringing the Treaty into force. It remains the policy of my Government to seek to make this possible at an early date. We took the step of ratification last year to this end and we urge all governments which have not signed, or which have signed but not ratified, to take and implement those decisions in the near future.
6. We welcomed very warmly the decision of the Governments of the United States and the Soviet Union to hold bilateral talks on strategic arms limitation and regret that it has not yet been possible for those talks to begin. I hope that they may start soon, and I am encouraged in this sense by the messages addressed to us on 13 March by the

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Secretary-General of the United Nations (ENDC/PV.395, para.4), by Chairman Kosygin (ENDC/238) and by President Nixon (ENDC/239*). I am anxious that those bilateral talks should make progress, since they seem to me to be, although initially at least outside the purview of our agenda here, an essential element of the undertakings contained in article VI of the non-proliferation Treaty.

7. It is also article VI which will provide the test of our performance here when we come to report to the General Assembly and it is because of my concern in this context that I am anxious that we review our methods of work with the object of our having, in addition to the normal meetings devoted to general discussion, meetings devoted exclusively to one item of our agenda and perhaps also sub-committees working on a particular subject, for example the comprehensive test ban, the sea-bed and chemical and biological warfare, where we already have working papers or draft conventions before us. Delegations will recall that I made suggestions along these lines last summer and I am much encouraged to find in this session that a consensus is developing that we should adopt new and more flexible methods of work. I also welcome the willingness of delegations to have more meetings but I would stress that our productivity will depend more upon the manner in which we conduct the meetings than upon the number of hours of discussion. Eloquence, in this field as in most others, is no substitute for achievement.

8. Accordingly, I believe we should make faster progress where that is possible, or clarify the areas where it is not, by these procedures rather than by the general discussion in which we are currently engaged. I hope such opportunities will be arranged and therefore I seek only to make some general observations on the major topics which have so far occupied the Committee.

9. Like many other representatives who have spoken, my priority in the nuclear field is to secure a comprehensive test ban treaty. The Committee will recall that my delegation submitted a working paper (ENDC/232) last summer, and we had also a joint memorandum by eight countries (ENDC/235). These are still relevant to our consideration of how best to bridge the considerable gap which exists within the Committee as to what would represent adequate verification of such an agreement to prohibit underground tests of nuclear weapons for military purposes. We have now before us the draft treaty (ENDC/242) which was submitted by the representative of Sweden, Mrs. Myrdal, on 1 April 1969 and which marks an important step forward in our deliberations since the provision

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of this text permits us to concentrate our discussion and to clarify points of difference between delegations. The text also indicates the considerable study and leading role that the Swedish delegation has undertaken in this subject over a long period and I readily acknowledge a great debt to Sweden on this account. My delegation has studied the text with great care and I hope we may have an early opportunity in the Committee to consider its provisions together in detail.

10. For the moment may I raise one or two general questions? Both the preamble and article I (3) refer to an international agreement covering explosions for peaceful purposes. Is this envisaged as being the same international agreement as that referred to in article V of the non-proliferation Treaty -- since, as I am sure Mrs. Myrdal recognizes, there is a significant difference of language as the non-proliferation Treaty permits bilateral agreements in addition to "special international agreement or agreements"? It would be helpful I think to have some further clarification of the relationship between the agreement envisaged here and that set out in article V of the non-proliferation Treaty.

11. Article II deals with the crucial question of verification and I do not take a rigid position on this. However, I wonder whether what is proposed in the text will be thought generally acceptable since a State considering the Treaty has been infringed has only the right (a) to make inquiries and receive information and (b) to make proposals as to suitable methods of clarification. Its only recourse, if it is still not satisfied, is to bring a complaint to the Security Council, or alternatively to exercise its right of withdrawal -- in each case a course of action which should not lightly be undertaken.

12. Several suggestions have been made in the past, including my own proposals in 1968 (ENDC/232), for some kind of committee to supervise the operation of the Treaty and I feel those proposals should be given further consideration. A committee with suitable technical support could prove invaluable in assessing the large amount of information put forward and in clarifying doubtful events. As the Committee will recall, in my suggestions, which are still on the table for consideration, I proposed that while there would be no certain or automatic right of on-site inspection, that right should exist in certain circumstances.

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13. In considering these proposals it may also be useful to examine the present effectiveness of seismological exchanges and consider how they might be improved. As I see it, the suggestion here is that all countries should make speedily available, presumably through a common data centre, all relevant seismic records. Of course, several international seismic data centres already exist -- for instance, in Edinburgh, in Washington and in Moscow. The centre at Edinburgh receives data from all over the world; those data include epicentres, origin times, magnitude, depth of focus, and other supplementary information which might be of use in determining the nature of particular events. However, the centre at Edinburgh with its present resources is only able to produce collated information on events of larger magnitude after a considerable lapse of time. The United States Coast and Geodetic Survey also calculates epicentres based mainly on the Worldwide Standard Seismological Network (WWSSN) and distributes these some weeks after the events, but this rapid service is not as precise or as comprehensive as the slower service provided by Edinburgh. The centre in Moscow makes available collated data from Russian stations which are transmitted to Edinburgh. However, such data relate to earthquakes and my understanding is that data from Russian stations on underground explosions, whether in the Soviet Union or outside, are not, as a matter of course, made available outside the Soviet Union.

14. None of those data centres, with the possible exception of the United States Coast and Geodetic Survey, provides a service whereby copies of original station records could be made readily available; and we must recognize that the scrutiny of station records would be essential to decisions in doubtful cases.

15. We plainly have some way to go before it could be said that adequate international machinery exists to enable States to assure themselves that the best possible use could be speedily made of seismic data obtained from stations throughout the world. And even if the resources and the means could be found to make the best possible use of seismic data, we must accept the SIPRI experts' evaluation (ENDC/230) that techniques at present deployed will not give a capability for identification of better than twenty to sixty kilotons in hard rock.

16. Therefore we should very much like to hear the views of the Swedish and other delegations on how they see the provisions of article II working in practice. It

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would also be of interest to us to know the views of our Soviet colleague, particularly on the availability of explosion data from Soviet seismic stations.

17. Even if the technical difficulties are overcome, political difficulties may remain. As my delegation has made clear on many occasions, our wish is to secure a comprehensive test-ban treaty at the earliest possible date. However, if that is not feasible, if it is not possible to get an immediate cessation of all tests for military purposes, we feel that my proposal (ENDC/232 para.6) for quotas, embodying a phased reduction in the number of tests to zero over a small number of years, merits serious consideration. This might also assist us to meet the problem of tests of nuclear explosives for peaceful use, which is a relatively new and complicating factor in achieving our objective of a comprehensive test ban. Such a phased reduction period would be a great deal better than nothing and would be of immense value in building up mutual confidence, on which, as the Swedish draft text illustrates, so much depends.

18. I was very interested in proposals presented by the representative of the United States, Ambassador Fisher (ENDC/PV.401, paras 5-17), for an agreement to cut off the production of fissile material for nuclear weapons, the cut-off to be verified by the International Atomic Energy Agency (IAEA). The proposal for a cut-off is not new but the method of verification is. Any such agreement would have to make adequate provision for verification and I can say that we would be prepared to accept appropriate IAEA safeguards for that purpose if the other nuclear Powers were prepared to do likewise. We are studying these proposals and I hope that other delegations will do so also.

19. I turn now to the problems of the sea-bed and wish to reaffirm my Government's constructive approval of the efforts to find a practical and generally acceptable basis on which the sea-bed beyond the limits of national jurisdiction can be preserved for man's peaceful use. We are anxious to see early and substantial progress on this issue and shall wish to make a full contribution to the consideration which I hope this Committee will give to the several complicated issues involved. Indeed we find ourselves again with an apt illustration of the difficulties of turning general principles into precise and acceptable treaty language.

20. Perhaps the problem may best be approached by considering the two major issues involved:

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- (a) what area of the sea-bed should be subject to arms control arrangements; and
- (b) what military activities should be banned in this area of the sea-bed.

Those two questions are closely linked and cannot be pursued separately; the area can be finally agreed only when we know what is to be banned, and vice versa.

21. I suggest therefore that the right approach is to consider what specific military activities might be banned in the arms control area, however that may be defined. We for our part strongly support the proposal for a ban on emplacement or fixing on the sea-bed of nuclear weapons or weapons of mass destruction on which there is encouraging common ground in the United States and Soviet approaches. This would provide an opportunity for the Eighteen-Nation Committee on Disarmament to make an early start towards agreed arms control measures for the sea-bed. We are also ready to consider on their merits any other proposals for specific bans that may be put forward.

22. We would welcome a clarification of a number of points arising out of the Soviet draft (ENDC/240). In his speech on 3 April our co-Chairman, Ambassador Roshchin, explained that no question arises of prohibiting "the establishment or emplacement of means of communication, navigational means and other means of infrastructure"

(ENDC/PV.400, para. 19). We welcome that clarification since this was not clear from the language of the draft text. We should also be interested to know what he has in mind in each case in mentioning "military bases, structures, installations, fortifications and other objects of a military nature." (ENDC/240, article 1)

23. In discussing the proposal for a twelve-mile maritime coastal zone, Mr. Roshchin said:

"In doing so we have in mind that this zone, established exclusively for the purposes of the treaty, does not involve the question of the limits of territorial waters, concepts of national jurisdiction, and other problems."

(ENDC/PV.400, para. 29).

We welcome that interpretation. Whatever size zone is finally adopted, in my view it must be accepted on a clear and strict understanding that in taking it for the purpose of this arms control agreement we are not creating any precedent or prejudging this question in the context of either arrangements for the peaceful exploitation of the sea-bed or the law of the sea. My Government is currently studying all the proposals made here and all the complexities of the problem. I am sure that if we all approach the subject seeking to reach an agreement we shall find realistic, viable and equitable solutions.

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24. Finally I wish to refer to the subject of chemical and biological warfare, on which I submitted a working paper (ENDC/231) on 6 August 1968. It will be recalled that I proposed originally (ENDC/PV.381, para. 93) that we should ask the Secretary-General of the United Nations to produce a study on chemical warfare and that we should immediately begin work on a convention to prohibit microbiological methods of warfare. I later (ENDC/PV.392, paras. 43-46) accepted the suggestion of the representative of Poland (ENDC/PV.385, para. 70) that the proposed study should embrace both chemical and biological means of warfare. Of course neither "chemical" nor "biological" is to be found in the text of the original Geneva Protocol, but I feel that "chemical" is more comprehensive than "asphyxiating, poisonous or other gases" as "biological" is than "bacteriological" and I would propose that we adopt the terms "chemical" and "biological" in our discussions.

25. In accepting last year this recommendation, which was afterwards accepted by the Secretary-General and endorsed by the General Assembly (resolution 2454A (XXIII); ENDC/237), I said (ENDC/PV.392, para. 42) that I did so on the understanding that it was not a device for procrastination by this Committee but an earnest of its desire to examine and make progress with the considerable problems that arms control agreements pose in this field.

26. I am greatly encouraged that as a result of our initiatives here the panel of experts was rapidly convened and is currently well advanced in its work. I hope that the Secretary-General's report will be of great value to us in assessing the elements of these horrible means of war and also in focusing world public opinion on the issues involved; but in the light of the panel's terms of reference the report is unlikely to assist us with the political and arms control issues. That is our responsibility here and it is for this reason that I consider that we should pursue our discussions here without waiting for the report, particularly in the field of biological weapons, which are universally condemned. We need not at this stage work in detail on chemical weapons, although some of the difficulties we face in prohibiting biological weapons, especially in respect of verification procedures, will be common to chemical weapons also. Thus we do not risk duplication if we begin with biological weapons now with a view to turning to chemical weapons after the report is available to us.

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27. In his letter to Ambassador Smith President Nixon says:

"Fourth, while awaiting the United Nations Secretary-General's study on the effects of chemical and biological warfare, the United States delegation should join with other delegations in exploring any proposals or ideas that could contribute to sound and effective arms control relating to these weapons." (ENDC/239,* p.2)

I was much encouraged to hear this since it expresses exactly my purpose and my idea of how we should pursue the matter pending the report promised for early July. This view has also been expressed by our Canadian colleague, Ambassador Ignatieff (ENDC/PV.396, para. 64).

28. I should like very much to have the views of other delegations on my working paper (ENDC/231*) of last year before I present a further document or draft convention setting out the results of the continued study my Government has devoted to this important subject. Indeed, as U Thant has said very plainly, the more successful we are in our other work, especially in removing the danger of nuclear war, the more urgent it becomes to prohibit chemical and biological weapons. I suggest, therefore, that this subject could well be pursued in a specialized session at an early date.

29. However, today I would once again repeat that nothing that I have in mind would in any way limit or derogate from obligations assumed by States parties to the Geneva Protocol. On the contrary, I repeat what I said in introducing this subject, that I should like to see all countries which have not done so already ratify the Protocol. Indeed I suggest that any convention that may be submitted should make this abundantly clear, both in preambular form and also by an operative article which might be on the following lines:

"Nothing contained in the present Convention shall be construed as in any way limiting or derogating from obligations assumed by any State under the Geneva Protocol of 17 June 1925 for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases and of Bacteriological Methods of Warfare."

30. I should, of course, welcome any alternative suggestions as to how best to meet this very vital point that we should not undermine or destroy the Geneva Protocol, which would continue in force after a convention on the lines I suggest had been concluded.

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31. Verification and investigation of complaints is another aspect of our biological warfare proposal on which we would welcome views and comments before going ahead with the submission of a draft convention. We realize that this presents great difficulties. For reasons explained in my paper, we think the objective should be an effective procedure for the investigation of complaints that the convention has been infringed, rather than safeguards of the kind provided in the non-proliferation Treaty and I should like to give the Committee some indication of what we have in mind.

32. It seems to us that any complaints of use, production and possession of biological warfare agents for hostile purposes would have to be investigated very quickly in order to establish facts. It is important to have machinery to achieve this -- which the Geneva Protocol does not have -- because only such machinery could provide adequate restraint on aggressive activities. Procedure for investigating complaints would have two distinct aspects: first, machinery for receiving complaints and initiating an investigation; and second, machinery for carrying out the actual work of investigation. Those two aspects could be dealt with by a single body, but need not be. Because of the need for speed, machinery should be as far as possible automatic. All facts discovered by investigation would be transmitted to the Security Council as the body with primary responsibility for the maintenance of international peace and security. It would be for the Security Council to decide upon any follow-up action.

33. We have tentatively concluded that the best arrangement would be for the Security Council to adopt a resolution taking note of the convention and authorizing the establishment of appropriate machinery to receive complaints, initiate fact-finding investigations, and report findings to the Security Council.

34. We shall be happy to develop those ideas more fully if, as I hope, we can have a substantive discussion on this subject. Time now presses. I would hope to be in a position to submit a draft convention at about the same time as the Secretary-General's report is available, and it would be of the greatest value to have as soon as possible the preliminary views of our colleagues on the working paper and my remarks today.

35. This has, I fear, again been a long speech and I would express my appreciation of the patience of my colleagues. Our business here is to turn general principles and ideas into effective, acceptable and viable international agreements. I hope my

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remarks may contribute to that end. I trust also that we shall not hesitate to adapt the tempo and methods of our work so as to achieve the maximum output of international legislation. We have much to do.

36. Mr. HUSAIN (India): As I take the floor for the first time at this session, I should like to avail myself of this opportunity to join those who have spoken before me in welcoming in our midst our new colleagues, Ambassador Smith of the United States, Ambassador Ignatieff of Canada, Ambassador Frazão of Brazil and Ambassador Klusák of Czechoslovakia. I should also like to welcome the return of Ambassador Fisher of the United States, Minister of State Mulley of the United Kingdom and Mr. Protitch, Special Representative of the Secretary-General of the United Nations, all of whom we are very happy to see with us again.

37. In accordance with resolutions 2454 (XXIII) and 2455 (XXIII) adopted by the General Assembly at its twenty-third session (ENDC/237), this Committee has been specifically requested:

- (a) to make renewed efforts towards achieving substantial progress in reaching agreement on the question of general and complete disarmament under effective international control, and in particular to consider how rapid progress could be made in the field of nuclear disarmament;
- (b) to continue urgent efforts to negotiate collateral measures of disarmament;
- (c) to take up as a matter of urgency the elaboration of a treaty banning underground nuclear-weapon tests; and
- (d) to consider the report of the Secretary-General on chemical and bacteriological weapons.

38. In addition, President Nixon and Chairman Kosygin have in their messages (ENDC/239,* 238) referred to the urgent need for negotiating an international agreement to prevent an arms race on the sea-bed and the ocean floor. Furthermore, while President Nixon has suggested an agreement to cut off the production of fissionable materials for weapons purposes, Chairman Kosygin has urged the need for agreement on the non-use of nuclear weapons, as well as solutions to the problems of cessation of the manufacture of nuclear weapons, the reduction and destruction of their stockpiles, and subsequent reduction of the means of delivery of strategic weapons. It will be observed that all those matters, which have been remitted to us for urgent negotiations, are well within the scope of the wide-ranging agenda which our committee adopted

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on 15 August 1968 (ENDC/236, p.3). Most of those matters have been engaging our attention for the past several years now; yet the progress we have made so far remains discouragingly small.

39. In this connexion there has been much comment on the method of work of the Committee, and various proposals have been made to make it more effective. It has been suggested, for example, that the duration of the current session of the Committee should be longer, rather than shorter; that there should be some informal meetings of the Committee; that some meetings should be devoted to specific topics; that an inter-sessional committee should be constituted; that sub-committees or working groups might be appointed; that instead of two meetings a week, as at present, three or four meetings might be held; that all items of the agenda should be kept simultaneously under discussion instead of our according monopoly of time to any one matter, as has been the case during the last two years; that recourse might be had to the services of the Secretariat to draw up summaries or prepare studies, and so on. Some of those proposals were discussed here informally yesterday.

40. Those are suggestions worthy of our serious consideration and my delegation would be very glad to co-operate in the common effort to improve our working arrangements. However, I would venture to submit that this understandable concern with the mechanics or organization of work will not necessarily produce more results. The basic difficulty is the question of the will of the members of this Committee -- particularly that of the nuclear-weapon Powers, which have the most to disarm -- to take positive steps forward. I cannot help recalling, in this connexion, what the representative of Sweden, Mrs. Myrdal, said in the First Committee of the General Assembly last November:

"The reason why ENDC -- and the same refers to the whole of the United Nations -- is not making much progress towards disarmament is, of course, that since the Moscow Treaty in 1963 the nuclear-weapon Powers have not wanted to agree to any real infringement on their freedom of action to continue the arms race, to produce and deploy nuclear weapons systems and to develop new ones."

(A/C.1/FV.1609, provisional, pp. 48-50)

41. If the will to advance is not there, no amount of improved techniques is likely to make any difference. What is really required is a decision to select a few items which could lead to true disarmament and on which we are determined to make progress,

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and then to concentrate our negotiations on those items. Such a selective approach would not imply that other items would be excluded from our consideration, but it would certainly mean our focusing particular attention on certain specified issues. Otherwise, if we were in a discursive way to continue to roam over the whole field of disarmament, not only would we get nowhere but we would be submitting to the next session of the General Assembly an unsatisfactory report, the adverse consequences of which have already been commented upon.

42. It will be recalled that we adopted an agenda on 15 August 1968 without assigning priorities to the specific measures of nuclear disarmament or priority inter se among the items listed under the other three categories. We in the Indian delegation do not agree with the view that the Committee should not be rigid in its priorities -- a view which in this context would amount to saying that we should not have any priorities at all. We feel that some order of priorities is necessary, and once that has been established, and also recognized as being indicative of the political will to reach agreement in certain areas, an improved organization of work or better mechanics of work will follow automatically.

43. Some delegations have in their statements also referred briefly to the question of the expansion of the Eighteen-Nation Committee on Disarmament. In order to consider that question we need to go back to the genesis of our Committee and to understand its nature and purpose. As a result of our experience in the field of disarmament during the last quarter of a century we have learned to appreciate the value of the distinction between what might be called deliberative organs and negotiating bodies. By the very nature of problems in the field of disarmament, which affect the vital security interests of all nations, the entire international community has also to be involved in disarmament efforts. Each year we discuss these questions in the United Nations General Assembly, which as a deliberative organ, lays down priorities as well as general guidelines for disarmament negotiations. But the actual work of negotiations needs to be carried out by a smaller body, which alone can be effective. The Eighteen-Nation Committee on Disarmament is just such a negotiating body.

44. After the end of the Second World War various efforts were made to set up a negotiating body, but without success -- the last such effort being the Ten-Nation Committee on Disarmament, composed of an equal number of States representing the two principal military alliances. But when that Committee, too, made no progress it was

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felt necessary to bring an element of non-alignment into the negotiating body; hence the presence now of the eight non-aligned countries in this Committee. It is our considered view that the Eighteen-Nation Committee on Disarmament, as at present constituted, reflects a careful and correct balance and that nothing would be gained by modifying its structure or composition.

45. We agree with the representative of Canada that if the Eighteen-Nation Committee on Disarmament is to perform its duties effectively in the future it must retain its original character as a negotiating body (ENDC/PV.396, para. 59): that is to say, it must remain reasonably small and must not become too large or unwieldy. It would follow that any enlargement, if considered necessary, should be restricted to the minimum, and that the additions should be on the same basis as that of the original composition of the Committee. So far as non-alignment is concerned, it should be judged on the basis of whether or not a country is engaged in a military alliance with one or the other of the two sides. My Government is convinced that the Eighteen-Nation Committee on Disarmament has a very useful, indeed vital, role to play in the future and that nothing should be done which might either weaken it or reduce its effectiveness.

46. Let me recall once again that among the tasks before us now the principal task is still a treaty on general and complete disarmament under effective international control -- a goal established by the international community under the historic General Assembly resolution 1378 (XIV). The work which this Committee began in 1962 on the drafting of a treaty on general and complete disarmament was not able to proceed beyond the stage of agreement on the preamble and the first four articles, and even that agreement was subject to certain crippling reservations from both the Soviet Union and the United States, and ever since 1964 no negotiations have been undertaken in the Committee with a view to drafting a treaty on general and complete disarmament. If the world community is not to be disillusioned about the goal that it set itself, the Eighteen-Nation Committee on Disarmament must revert to the main task assigned to it and not relegate that task to some dim and distant future. The Committee must pick up the threads from where they were left off in 1964. My delegation suggested on an earlier occasion that this task would be facilitated if the United States and the Soviet Union, in the light of various suggestions which have been put forward and many

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developments that have since taken place, were to submit revised versions of their draft treaties which had been submitted in 1962 (ENDC/2/Rev.1 and Corr.1; ENDC/30 and Corr.1 and Add.1-3). This Committee could not possibly do less, because General Assembly resolution 2454 B (XXIII) has specifically asked us urgently to analyse the plans which are already under consideration and any others that might be put forward.

47. It needs to be borne in mind that no individual collateral measure could have any meaning, much less any chance of success, unless it was conceived of as part of a general process of total disarmament and as leading us towards that goal. Such collateral measures as have been concluded might have created the illusion in certain quarters that progress was being made, while in fact those measures are mostly preventive in their nature and purpose. The time has come for us to proceed from preventive measures to curative measures. The preventive measures may have a certain value and significance, particularly for the nuclear-weapon States parties to them, but to the majority of the world's population they do not represent progress towards disarmament for they do not bring the benefits that were expected to accrue from disarmament. Never before in the history of mankind have so few States enjoyed so much accumulation of military power. This situation imposes on them a grave responsibility for the destiny and well-being of mankind at large and not merely for the security and welfare of their own countries and peoples.

48. Several delegations have already reiterated the urgent need for making at least some progress towards nuclear disarmament. They have also recalled the message of the Secretary-General (ENDC/PV.395, para. 4) pointing out that the yearly world military expenditures have increased from \$120,000 million in 1962 to more than \$180,000 million -- the annual rate of increase of \$10,000 million being greater than the yearly growth of world gross national product. That amount could quite easily have been diverted for the economic advancement of the developing countries, which are waging a difficult struggle against poverty and worse. That diversion of resources could have been made without endangering the security of those States that are engaged in the arms race. How can this Committee explain to the world the justification for an annual increase in world military expenditure of \$10,000 million when there are already in existence thousands of nuclear weapons? Moreover, as everyone knows, if plans currently under discussion for the development of newer offensive and defensive weapon systems were to be implemented, as seems likely, they could lead to yet another massive new escalation both in military expenditure and in nuclear weaponry.

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49. A thermonuclear bomb with an explosive yield of fifty or sixty megatons -- 3,000 times the power of bombs used against Japan -- has already been test-exploded. The existing nuclear armories contain numerous large megaton weapons, every one of which has a destructive power greater than that of all the conventional explosives that have ever been used since the day gunpowder was discovered. There is already, according to one estimate, as much as 100 tons of explosive power in terms of TNT available in the nuclear arsenals for killing each man, woman and child in the world, when only ten kilograms of conventional chemical explosive are believed to be lethal enough for a human being.

50. That being so, there is justification enough for us to make serious efforts towards achieving nuclear disarmament, and for that purpose, I submit, it is not necessary to invoke article VI of the non-proliferation Treaty (ENDC/226*) as if that was the only reason for pursuing nuclear disarmament. The need for nuclear disarmament existed before that Treaty, exists now, and will exist in the future so long as nuclear weapons remain in the arsenals of nations, regardless of when the non-proliferation Treaty comes into force. Supposing there was some delay in the coming into force of the non-proliferation Treaty. Should that mean that we should suspend our efforts towards nuclear disarmament? After all, the non-proliferation Treaty was intended only as a preventive non-armament measure, and it in no way controls or curtails the ever-spiralling nuclear arms race among the present nuclear powers.

51. Let it not be forgotten that since the discovery of the use of nuclear energy for purposes of mass destruction, nuclear weapons have been used once, and only once, and they were used when there was only one nuclear-weapon Power in the world and not five as at present. Thus it is the very existence of nuclear weapons which poses the threat to mankind, even if the possession of such weapons were the monopoly of only one State in the world. The non-proliferation Treaty, even when it comes into force, will neither remove nor even diminish the nuclear threat from haunted humanity. The delay in the enforcement of the non-proliferation Treaty should not, therefore, be a reason for not proceeding with nuclear disarmament.

(Mr. Husain, India)

52. There is one other element which threatens to hold up progress in our work. The United States and the Soviet Union announced on 1 July 1968 their agreement to hold bilateral discussions on the limitation and reduction of both offensive strategic nuclear weapon delivery systems and systems of defence against ballistic missiles. This announcement was welcomed by all of us at our last session and the hope was expressed that the projected talks would be held soon and would be successful. Later, that hope was reiterated in resolution D (A/7277, pp. 7 and 8) of the Conference of Non-Nuclear Weapon States. Then at the twenty-third session of the General Assembly, in resolution 2456 D (XXIII), the Governments of the United States and the Soviet Union were once again urged to enter into bilateral discussions at an early date. If the wishes and the appeals of the world community could produce results we should have had some progress by now.

53. But so far, although it is getting on for a year later, no date for such discussions has yet been fixed. In fact, President Nixon in his message to Ambassador Smith expressed the hope that "the international political situation will evolve in a way which will permit such talks to begin in the near future." (ENDC/239,* p.2)

Ambassador Smith, in his statement of 25 March, amplified this by saying that:

"The passage of some time is needed for the new Administration to make the necessary preparations; and the timing should be favourable in a political sense if even carefully prepared strategic arms limitation talks are to proceed with real promise of being productive." (ENDC/PV.397, para.18)

54. It would seem that if these bilateral talks, long and eagerly awaited -- talks which, it has been observed by many of us here, are closely linked to progress in nuclear disarmament and in particular to a comprehensive test ban and cut-off -- are to await the development of a favourable international political climate, which involves some of the most difficult and complex questions, then indeed we may have to wait for quite some time in order to make progress in this Committee on nuclear disarmament. Consequently my delegation agrees with the following views expressed on 27 March by Ambassador Christov:

"Even if at times one is tempted to believe that in order to achieve rapid progress towards disarmament we must first restore confidence and improve the international climate, we have only to look more closely at the means of achieving that aim to realize that the restoration of confidence and the

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improvement of the international climate depend primarily on one prerequisite, which is precisely the achievement of progress in the field of disarmament.

In this case there is no question of the classical vicious circle; but unless progress is achieved in the extensive field of disarmament, it would be futile to expect a lasting improvement in confidence and in the political climate on our planet." (ENDC/PV.398, para.3)

It is necessary, therefore, that the proposed bilateral discussions commence without any further delay.

55. My delegation has noted with interest that President Nixon, in his letter to Ambassador Smith, has suggested the urgent need for an agreement to cut off the production of fissionable materials for weapons purposes and that Chairman Kosygin has suggested the solution of the problems of the cessation of the manufacture of nuclear weapons and the reduction and destruction of the stockpiles of those weapons. Believing in a step-by-step approach for the achievement of nuclear disarmament, the Indian delegation has repeatedly stressed that a cut-off in the production of fissionable materials for weapons purposes would constitute a significant advance towards a complete stoppage of the further production of nuclear weapons.

56. The difficulty of verification of a cut-off in the production of fissionable materials for weapons purposes, as several delegations have stated here in the Eighteen-Nation Committee on Disarmament and in the General Assembly, can no longer be cited as a reason for not reaching an agreement on this measure since an agreement on controls as elaborated in the non-proliferation Treaty already exists and the obligations of the nuclear-weapon States in respect of inspection by IAEA could be made the same as those of the States not having nuclear weapons. My delegation listened with great attention, therefore, to the statement on this subject made by Ambassador Fisher (ENDC/PV.401, paras. 5 et seq.) on 8 April 1969 as also to the views expressed by Ambassador Roshchin (ENDC/PV.402, paras. 73-77) on 10 April 1969 and looks forward to hearing the views of other delegations, in the hope that fruitful negotiations may take place on this vital matter with a view to achieving a complete stoppage of the production of nuclear weapons and their subsequent elimination.

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57. As regards other measures in the field of nuclear disarmament, the Government of India has always attached the greatest importance to a comprehensive test ban. Both the need for and the urgency of achieving this was underlined in the undertaking given in the Moscow test-ban Treaty (ENDC/100/Rev.1) by the three nuclear-weapon Powers. No progress has been made in that direction, however, during the past six years, which on the other hand have been marked by the increasing frequency of nuclear explosions. The General Assembly has accorded special priority to this item for a number of years. In the Eighteen-Nation Committee on Disarmament the eight non-aligned States in their successive joint memoranda (ENDC/159*, 177, 235) have viewed the lack of progress in this field with deep concern and urged that renewed and urgent efforts be made to conclude such a treaty. Also, as my delegation has repeatedly stressed, the partial test ban has continued to remain doubly partial: it has not been adhered to by all the nuclear-weapon States, and the continued atmospheric testing not only has increased the levels of radioactivity but has also rendered the future of the Treaty very uncertain.

58. The fact that underground testing has been conducted with what might appear to be renewed force and vigour, using larger and more sophisticated weapons, goes against the spirit of the partial test-ban Treaty as that Treaty did not legitimize or give international sanction to such testing. The Treaty was intended to be only a step towards a comprehensive test ban, to be concluded as early as possible. What is even worse, violations of the partial test-ban Treaty have occurred through venting of radioactivity from underground tests, which has spread outside the territory of the testing State. There is serious apprehension that these violations might become even more frequent as weapons of megaton yields are tested underground for the purpose of developing and testing newer and more destructive weapon systems, including warheads for anti-ballistic missiles.

59. India was the first country to press for a suspension of all nuclear weapon tests and has consistently been of the view that whatever might be the differences on the question of verification, all nuclear weapon tests should be discontinued immediately. Negotiations could then be undertaken to resolve the outstanding differences with a view to making the present partial test ban Treaty a comprehensive one. At the same time, it should be ensured that the success achieved by the international community in

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regard to a ban on tests in the atmosphere, in outer space and under water is further consolidated and strengthened. It should be made universally binding by securing the adherence of those States which so far have not signed the partial test-ban Treaty. Also, steps should be taken to prevent any violations of its provisions by the continued underground nuclear testing which causes radioactive debris to be present outside the territory of the testing State.

60. As to the problem of verification of a comprehensive test ban, India, along with other non-aligned countries, has over the years made various proposals which have not so far been accepted by the nuclear-weapon States. Developments in regard to seismic detection and identification as well as the proposals for an organized international exchange of seismological data have made it increasingly difficult to plead inadequacies in this field as the sole reason for holding up agreement on a comprehensive test ban.

61. It is against that background that my delegation welcomes the initiative taken by the Minister of State of Sweden, Mrs. Myrdal, in submitting for the consideration of this Committee a working paper with suggestions as to possible provisions of a treaty banning underground nuclear weapon tests (ENDC/242). My delegation commends the approach adopted in that paper as being sound and worthy of the most serious consideration by this Committee. We are generally in sympathy with the purposes underlying this effort. We think that this draft treaty provides a realistic basis for meaningful negotiations on formulating a comprehensive test ban for universal adherence.

62. Article I of the Swedish draft, which contains the prohibitions to be enjoined for purposes of a comprehensive test ban, is based on a three-tier approach, which in our opinion is the most logical and correct one. According to this approach, the partial test-ban Treaty would represent the first tier; an underground test ban forbidding all nuclear tests by all countries, including all nuclear-weapon countries, in the remaining environment would be the second tier; and the third and final stage would be reached when a separately negotiated international agreement regulating the conduct of nuclear explosions for peaceful purposes had been concluded.

63. The question of control of an underground test-ban treaty is dealt with in article II of the Swedish draft. The provisions of that article are based on the assumption that recent advances in the seismic art have made a notable improvement in the capability to monitor underground nuclear tests by seismological means alone. The

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article also envisages, towards the same end, an effective international exchange of seismological data. My delegation shares that twofold approach. Article II of the Swedish draft then goes on to outline the procedure for "verification by challenge" in order that clarifications of any doubtful events may become possible. My delegation, before taking a final position on this matter, would like to study very carefully the views that might be advanced by other members of this Committee.

64. A number of delegations have referred to the often-mentioned proposal for a convention on the prohibition of the use of nuclear weapons (A/6834). As a country traditionally opposed to the production, possession or use of nuclear and other weapons of mass destruction, India has always supported the idea of such a convention. Although it is realized that in the minds of the great Powers this question has come to be tied up with their vital security interests, we do feel that, like other declaratory prohibitions in the past, such a convention could have a considerable moral and psychological value, and its conclusion need not await other agreements on nuclear disarmament. A ban on the use of nuclear weapons along with other similar measures would lead to a building up of confidence among nations. India has therefore been of the view that it would be a definite advantage if the nuclear-weapon Powers were to accept the principle embodied in General Assembly resolution 1653 (XVI), which declared the use of nuclear weapons to be contrary to the United Nations Charter and a crime against humanity. But my delegation would, at the same time, add that if the proposed convention is to be effective it will require the active support of all States and more particularly of all States possessing nuclear weapons.

65. The keen interest in the sea-bed evinced by the major maritime Powers from the point of view of both economic exploitation and defence is indeed very significant. Vast numbers of personnel are engaged in exploration, research and experimentation, and increasingly enormous amounts of money are being spent on oceanographic programmes. While India is not at present engaged in such programmes, we are vitally interested in this problem because the Indian Ocean is one of the earth's four largest oceans -- the Pacific, the Atlantic, the Indian and the Arctic Oceans. The Indian Ocean covers 28,350,000 square miles, one-seventh of the planet. India participated in the international Indian Ocean expedition which lasted six years from 1959 to 1965 and in which thirty nations participated and forty research ships sailed 4 million miles across the Indian Ocean.

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66. My delegation therefore welcomes the draft treaty presented by the Soviet delegation on the question of the sea-bed and ocean floor (ENDC/240). My delegation is in agreement with the principles and purposes of this draft treaty, and it is our fervent hope that negotiations here will result in a draft which will prevent the arms race from entering this new environment. We should like to see the area of the sea-bed and ocean floor exploited exclusively for peaceful purposes, bearing in mind the special needs of the developing countries.

67. The disarmament aspect of the sea-bed question, of which this Committee is now seized, is a new subject and poses many difficult technical questions, such as the limits beyond which the prohibitions should apply, the nature of the prohibitions and the problem of verification.

68. As regards the definition of limits beyond which the prohibitions should apply, there would appear to be no disagreement that as large an area of the sea-bed as possible should be reserved for peaceful purposes. In that connexion the question of sovereignty in respect of territorial waters and sovereign rights in regard to the continental shelf and their importance from the defence and economic points of view would need to be taken carefully into consideration.

69. On the issue of the nature of prohibitions to be enjoined under the treaty, there seems to be no doubt that nuclear and other weapons of mass destruction should be prohibited from the agreed region of the sea-bed and the ocean floor and the subsoil thereof. The prohibition would also apply pari passu to the delivery systems related to such weapons. What other activities of a military nature could and should also be prohibited, without, however, interfering with the legitimate rights of maritime nations in respect of communication links, navigational aids and other such requirements, is a matter on which views would have to be exchanged and agreement reached.

70. The issue of verification for a sea-bed treaty would have to be dealt with in the light of the principle of international means of verification, so that all parties could feel assured that the prohibitions of the treaty were being complied with. The right of verification would need to be available to all parties and denied to none.

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71. My delegation has listened with close attention to the representatives of the Soviet Union and the United States, who have expressed the views of their respective countries on this matter. We should now like to hear the views of other delegations and to make a careful study of the whole question before offering views of a detailed nature.

72. Among non-nuclear measures, we discussed at our last session the problem of chemical and bacteriological weapons and recommended (ENDC/236, p.4) that the Secretary-General should appoint a group of experts to study the effects of the possible use of such weapons. That having been done, we have now been asked by the General Assembly at its twenty-third session (resolution 2454 A (XXIII)) to consider the report under preparation by the group of experts appointed by the Secretary-General.

73. India, in keeping with its policy of total abhorrence of all weapons of mass destruction, is a signatory of the Geneva Protocol and fully supports the idea of the prohibition of the use of chemical and bacteriological weapons. At the twenty-first session of the General Assembly India voted for resolution 2162 B (XXI), which called for strict observance by all States of the principles and objectives of the Protocol and urged those States which had not acceded to it to do so. My delegation believes in the continuing importance and validity of the Protocol, regardless of the passage of time or of the phraseology used, or of the absence of a system of international control -- which in this case it would be extremely difficult to provide anyhow. But in view of the important advances which continue to be made in the production and further sophistication of those weapons, and in this connexion in view of the scientific, technical, military, legal and political issues which are raised from time to time, my delegation agrees that the whole subject needs to be carried a step further than where it is today, but without detriment to the validity and the importance of the Protocol or the urgent need for securing a wider adherence to it. We shall, therefore, eagerly await the Secretary-General's report, expected by 1 July, to consider how to strengthen further the prohibition enjoined in the Geneva Protocol and to establish the framework for banning the production and stockpiling and securing the destruction and eventual elimination of all such weapons.

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74. In conclusion, my Government considers that the task of paramount importance before this Committee is the achievement of a treaty on general and complete disarmament. That task is an unprecedented one, for mankind has never known disarmament at any time in its history. The challenge is, therefore, all the greater. The delegation of India will co-operate with all the other States represented in this Committee with a view to accomplishing this common aim.

75. Mr. IGNATIEFF (Canada): As members of the Committee have already been reminded by more than one speaker -- and most recently by the two who have preceded me today -- General Assembly resolution 2455 (XXIII) (ENDC/237) requests this Conference to take up "as a matter of urgency" the elaboration of a treaty banning all nuclear-weapon tests, including those that have been continuing underground. We are all aware that this is the only item on the Committee's agenda to which the General Assembly assigned such high priority. For that reason, and because of the protracted delay and difficulties in getting to grips with this issue, the Canadian delegation welcomes the action taken by the representative of Sweden, Mrs. Myrdal, at the 399th meeting in submitting a working paper (ENDC/242) which sets out suggestions on possible provisions of such a treaty. We cannot subscribe to all the implications of the Swedish approach, but we are convinced that all avenues leading to agreement on verification must be explored.

76. The Canadian delegation is very well aware of the constructive attention which the Government of Sweden has given to the question of a comprehensive test ban. The Canadian Government is studying with the detailed attention that they deserve the proposals put forward by the representative of Sweden. Meanwhile, my delegation would like today to discuss briefly problems relating to paragraph 2 of article II of the Swedish draft.

77. First, I should like to recall that on a number of occasions the Canadian delegation has referred to the relationship between a comprehensive test ban and progress on the United States-Soviet bilateral negotiations on the limitation of strategic nuclear weapons. I would draw attention particularly to statements by General Burns on 18 July 1968 (ENDC/PV.382, paras. 3-17) and on 13 August 1968 (ENDC/PV.389, paras. 22-35), and to my own remarks on 20 March of this year (ENDC/PV.396, paras. 42-65). Members of the Committee, including the delegations of the United States

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and the Soviet Union, appear to be acting on the assumption that these bilateral talks will begin very soon. It is therefore all the more urgent, in our view, to explore ways of making progress towards a comprehensive test ban, which may be an essential concomitant of any agreement to limit the development of strategic arms.

78. Our Swedish colleague drew attention (ENDC/PV.399, paras. 12 et seq.) to the fact that political considerations are at least as important as scientific limitations in the approach to agreement on this vital issue. And yet those factors are not mutually exclusive. In August 1968 (ENDC/PV.389, para.33) General Burns expressed the view that the establishment of a worldwide interlocking network of seismological stations and an international data exchange centre would reap enormous dividends. As our first contribution to the discussion of the Swedish draft treaty today, I should like to elaborate on the concept of an effective international exchange of seismological data -- a subject on which the Minister of State of the United Kingdom, Mr. Mulley, made such important and interesting comments earlier this morning. My remarks will be based on progress which Canadian scientists have registered since the valuable international scientific discussions which took place last year under the auspices of the Stockholm International Institute for Peace and Conflict Research (SIPRI). We consider that this can prove to be one area in which technical arrangements could be devised which would diminish the area of political disagreement with respect to effective verification of compliance with a comprehensive test ban.

79. Before discussing this question, however, I should like to take this opportunity to state that Canada responds affirmatively to the proposal for international co-operation in seismic investigations through a series of United States underground nuclear explosions which are part of its "Plowshare" programme. In our view, practical measures such as this, which can help to clarify the verification issue, merit our full co-operation. Indeed, it seems to us to be the kind of action that the representative of the United Arab Republic had in mind when he referred at our last meeting (ENDC/PV.403, para.25) to promoting international scientific and technical co-operation in the field of seismological research. We noted with interest the yields of the first two explosions which were announced by the United States representative on 25 March (ENDC/PV.397, para.24). We hope that full technological information on the environment of those explosions will be made available as soon as possible.

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80. The Canadian authorities intend to use the projected "Plowshare" explosions to further Canadian research on detection and identification and, as is the normal Canadian practice, any results obtained will be published in open literature. I may mention that there have been several relevant Canadian scientific papers published since the SIPRI meetings at Stockholm and others are about to appear in print. For the convenience of the Committee, I have asked the Secretariat to circulate a list of the titles as a working paper^{1/}. The Canadian authorities consider that steady progress is being made in clarifying the verification issue. I should add that an experiment is now under way in Canada with some equipment at Yellowknife -- where, as Committee members may recall, we have a very modern seismological array --- and digital processing in Ottawa, which it is hoped will ultimately allow the resolution of the problem of whether the surface-wave/body-wave criterion for distinguishing explosions from earthquakes breaks down below yields of less than ten kilotons in hard rock. That question, as we know, was left open in the report of the SIPRI study group (ENDC/230).

81. Now we come close to the nub of the verification question, to the inter-action of scientific seismological detection aids and the political will -- or can we call it good will? -- required to conclude an agreement. Whatever judgement and interpretation may be made about the effectiveness of seismological verification of compliance with a comprehensive test ban as a measure of control, it seems to be agreed on all sides that the problems of verification would decrease if guaranteed access to all original seismological data were to be provided. The differences of opinion are much more concerned with how much the problems would decrease if access were fully guaranteed. Thus arrangements for the exchange of data, or at least for guaranteed access to all data, are required in order that the problems of verification may decrease. Because of our long-standing attention to this question, my delegation noted with interest the statement of the Soviet representative on 10 April (ENDC/PV.402, para. 72) concerning the willingness of the Soviet Union to exchange national seismological data with the other parties to a comprehensive test ban.

^{1/} Circulated as document ENDC/244.

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82. In principle, data exchange on a worldwide scale seems to us to be desirable. However, when we look at the practical aspects we encounter the problem that massive resources would be required to handle the volume of data. For instance, the Canadian standard network alone generates 55,000 large -- that is, about one yard by one foot -- seismograms yearly from twenty-five good stations. This figure, by the way, does not include the records from our Yellowknife array. There are some 200 to 300 stations throughout the world with comparable standards and equipment, and perhaps twice as many more with poorer equipment. The Canadian authorities in a preliminary assessment have estimated that between 100 and 200 stations are really the key ones. These would include most of the twenty-five Canadian stations because of their geographic location, modern equipment and comparatively high sensitivity.

83. For the investigation of any particular event only a few dozen or perhaps a few hundred records may be required. The problem seems to be to devise a system by which their availability could be guaranteed within an acceptable and practicable interval of time. The time problem obviously will be closely related to the structure of the system and its cost, not to mention its political acceptability.

84. One possible system would be based on governmental guarantees to supply records or microfilms, with supporting background technical information, upon the demand of any requesting government within an agreed time interval. Non-compliance with a demand presumably would strengthen the suspicion that clandestine weapons tests were going on. A system along these lines would in effect do little more than render obligatory under an international agreement the kind of exchanges which at present are made for scientific reasons and fix a maximum time-limit for compliance.

85. Another possible system would be to deposit microfilm of records at an international data centre within an agreed interval of time after the record had been generated, or perhaps to send the original records for microfilming at the international centre. All countries would have equal access to the microfilm data, which would be supplemented by technical data on the instruments producing the records, station co-ordinates and other relevant technical information for each station.

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86. Seismic data recorded on magnetic tape, as in the case of the Canadian array at Yellowknife, would have to be handled differently. Governments might agree to store original data for one or two years and make requested portions available to interested parties through the international centre. The centre would need to be equipped with machinery for "translating", or converting from one format to another, in order to present the data requested in a form usable by the requesting country. Considerable technical negotiations would be necessary to establish the exact needs but in the view of the Canadian authorities the problems of data compatibility can be resolved without undue difficulty.

87. I have attempted to outline some of the problems which would be involved in establishing a system for the effective international exchange of seismological data. I cannot emphasize too strongly how important my delegation believes it to be that this Committee should prepare as promptly as possible to report appreciable progress to the next session of the General Assembly. I hope we may be able to agree on ways to bring together a group of experts to consider and report upon the organization of an effective international exchange of seismic data. Perhaps such a group could be invited to meet by the co-Chairman. However, without wishing to make any proposal on this point at this time, I consider that the group should include experts from non-members of the Eighteen-Nation Committee on Disarmament which have extensive seismological resources and experience, notably Japan and Australia, which for that reason are members of our informal seismic detection club. But first this Committee must agree in principle that action along the lines I have suggested would indeed be useful and appropriate.

88. The Canadian delegation is aware that there has been a strong tradition of continuing informal international co-operation in some aspects of seismic data exchange. Incidentally it is in the light of existing arrangements for international co-operation that the Canadian delegation is studying the interesting suggestion made by the representative of Ethiopia (ENDC/PV.402, paras. 103-104) at our meeting on 10 April. We are aware of UNESCO interest, too, in one seismological centre in Edinburgh, Scotland -- the centre which has just been referred to by Mr. Mulley -- established under the aegis of a non-governmental international scientific organization, which collects and collates one kind of seismic data from stations throughout the world.

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Our position is simply that this form of co-operation could be extended and strengthened by governmental guarantee, either by developing a new centre for this purpose if the major nuclear Powers so wish, or by extending the function of the present centre either in Edinburgh or elsewhere, or in some other way, depending upon the wishes of the co-operating parties and their technical requirements. The essential point appears to be to make clear just what information Governments will make available and then find an economic technical means acceptable to all parties of making this seismic information freely available. Successful progress towards this limited goal cannot fail to clarify the verification issue.

89. Meanwhile we might agree as a first move to ask all countries to send a list of all seismic stations from which they would be ready to supply records in the framework of a worldwide exchange of data. The list would show the co-ordinates of each station, the technical characteristics of its equipment and other appropriate information. A move of this kind would lead in the direction of merging existing seismological networks into a worldwide data exchange system and would be in accord with the unanimous conclusions of the SIPRI study group.

90. The Canadian delegation regards the suggestions I have just made as a means of making practical if modest progress in the direction of a comprehensive test ban. We look forward to the reactions of other delegations.

The Conference decided to issue the following communiqué:

"The Conference of the Eighteen-Nation Committee on Disarmament today held its 404th plenary meeting in the Palais des Nations, Geneva, under the chairmanship of H.E. Ambassador Nicolae Ecobesco, representative of Romania.

"Statements were made by the representatives of the United Kingdom, India and Canada.

"The delegation of Canada submitted a working paper listing recent Canadian scientific papers concerning the detection and identification of underground nuclear explosions by seismological means (ENDC/244).

"The next meeting of the Conference will be held on Tuesday, 22 April 1969, at 10.30 a.m."

The meeting rose at 12.20 p.m.

